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ABSTRACT

A constrained data-adaptive signal rejector suppresses signals received through the side lobes of a sensor array while preserving signals received through the main lobes. A main beam is formed in a typical signal processing architecture. A subset of the original independent sensor signals are paired into auxiliary channels using a weighting scheme
5 that results in a beam pattern having a null in the direction of the beam mainlobe. The auxiliary channels are then used in a traditional multiple sidelobe cancellation architecture to reject unwanted signals.